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REMARKS

1. The rejection of claims 1-9, 12, 13 and 15-18 under 35 USC 103(a) as being unpatentable over Scholer (USPN 2,832,373) in view of Avery et al (USPN 5,022,944) is respectfully traversed and reconsideration is respectfully requested.

The fluid conditioning system of the present invention differs in one aspect from the liquid treating device of Scholer by providing a fluid treating apparatus having a regeneration cycle which does not require the continuous use of supply water for the purpose of regenerating the treatment material. The liquid treating unit of Scholer during the regeneration of the ion exchange material (17) operates under continuous flow of supply water into the container (22) to dissolve regenerate material (22) and wash the ion exchange material (17) contained in tank (16) and to flush the regenerate material (22) from the ion exchange material upward through passage (28) once the regenerate material contained in container (22) has been completely dissolved. This regeneration process requires a substantial volume of supply water to regenerate the ion exchange material (17), which is then discharged as waste water.

The fluid conditioning system of the present invention is designed such that a continuous flow of supply water is not used during the regeneration of the treatment media (14), thus reducing the volume of supply water required and waste water generated. A key aspect to the fluid conditioning system of the present invention is through the use of a drain valve (21) which is in fluid communication with the vessel (12) and is operable to completely evacuate all fluid within the vessel (12), i.e. upon the opening of drain valve (21) fluid within the vessel (12) is drained therefrom without aid of a continuous flow of supply water. Further, the tank (16) of Scholer is never evacuated of fluid, and in fact remains completely filled with fluid with the ion exchanger material (22) complete submersed within the fluid during both the regeneration of the ion exchange material (22) and the treatment of supply water.

Claim 1 as recited above is patentable under 35 USC 103(a) over Scholer in view of Avery et al. because it has been amended to include:

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a drain valve connected to the pressure vessel in fluid communication therewith, said drain valve is operated to evacuate water from the pressure vessel, and is electrically connected to said programmable processor. Support for the amended is found in the specification at paragraph [043].

2. Claim 3 as recited above adds additional features to independent claim 1 and thus is submitted to be a-fortiori, patentable.

3. Claim 4 as amended and recited above is patentable under 35 USC 103(a) over Scholer in view of Avery et al. because it has been amended to include:

a drain valve connected in fluid communication to the drain port of said pressure vessel, said drain valve is operated to evacuate water from the pressure vessel. Support for the amendment is found in the specification at paragraph [43].

4. Claims 5, 7, 12, 13, 15 and 16 as recited above add additional features to independent claim 4 and thus are submitted to be a-fortiori, patentable.

5. Under 35 USC 103(a), the claimed invention must be considered as a whole as such:

Claim 6 as recited above is patentable under 35 USC 103(a) over Scholer in view of Avery et al. because it includes the following features which are not disclosed or made obvious by Scholer alone or in view of Avery et al.:

a fluid supply connection;

a fluid service connection;

a bypass passage in fluid communication with the fluid supply connection and the fluid service connection and extending therebetween;

a service passage in fluid communication with the fluid supply connection and the fluid service connection and extending therebetween;

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a distribution block having a first port, a second port, a third port and a fourth port, said distribution block in fluid communication with the service passage and connected thereto intermediate its ends at the forth and second ports;

a first valve in fluid communication with said service passage and positioned in-line thereto between said distribution block and said fluid supply connection;

a second valve in fluid communication with said bypass passage and positioned in-line thereto between said fluid supply connection and said fluid service connection;

a third valve in fluid communication with said service passage and positioned in-line thereto between said fluid service connection and said distribution block;

said first valve, said second valve and said third valve electrically connected to said programmable processor; and

a check valve in fluid communication with the first port of said distribution block and the connection port of said brine storage tank.

Claim 8 as recited above is patentable under 35 USC 103(a) over Scholer in view of Avery et al. because it includes the following feature which is not disclosed or made obvious by Scholer alone or in view of Avery et al.:

wherein the source of supply water is water that has been treated by the water conditioning system.

Claim 13 as amended and recited above is patentable under 35 USC 103(a) over Scholer in view of Avery et al. because it includes the following feature which is not disclosed or made obvious by Scholer alone or in view of Avery et al.:

a mechanical water filter connected in fluid communication with said bypass passage.

Claim 18 as recited above is patentable under 35 USC 103(a) over Scholer in view of Avery et al. because it includes the following features which is not disclosed or made obvious by Scholer alone or in view of Avery et al.:

a water flow sensor connected in fluid communication with said overflow drain, said water flow sensor connected to said programmable processor.

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6. Claim 9 as recited above adds additional features to claim 8, and thus is submitted to be a-fortiori, patentable.

7. Claim 17 as recited above adds additional features to claim 16 and thus is submitted to be a-fortiori, patentable.

8. The rejection of claims 10, 11 and 19 under 35 USC 103(a) as being unpatentable over Scholer in view of Avery et al. and further in view of Heskett (USPN 3,960,721) is respectfully traversed and reconsideration thereof is respectfully requested.

Claims 10 and 11 as recited above add additional features to independent claim 4, and this are submitted to be a-fortiori, patentable.

Claim 19 as amended and recited above is patentable under 35 USC 103(a) over Scholer in view of Avery et al. and further in view of Heskett because is had been amended to include:

a drain valve connected to the drain port of said pressure vessel, said drain valve is operated to evacuate water from said pressure vessel.

Further, the fluid treating apparatus of Heskett, like Scholer operates with a continuous flow of supply water and tank 30 which contains treatment media is maintained under pressure. The water conditioning system of the present invention does not require a continuous flow of supply water to regenerate the treatment media, the pressure vessel is not maintained under pressure, and unlike Heskett, the treatment media is not backwashed.

9. The rejection of claim 14 under 35 USC 103(a) as being unpatentable over Scholer in view of Avery et al. and further in view of Harting (USPN 2,744,868) is respectfully traversed and reconsideration thereof is respectfully requested.

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The air injector of Harting is used to transfer brine solution from one container to a second container to regenerate treatment material. The air injector of the present invention is in fluid communication with the valve manifold means and operates to precipitate solids from untreated water before entering the pressure vessel. There is no suggestion in Harting, Scholer or Avery et al. that Scholer could be modified with the air injector of Harting to precipitate solids from untreated water before entering the pressure vessel of the present invention. Further, there is not a reasonable expectation of success of the modification if the modification could in fact be made.

10. Claims 20 and 21 as recited above add additional features to independent claim 19, and thus are submitted to be a-fortiori, patentable.

11. In view of the above, it is respectfully submitted that:

Claims 1-21, recite distinctions that are of patentable merit under 35 USC 103(a) for the independent claims and thus for each dependent claim as well. Claims 1-21 are in condition for allowance. Reconsideration and withdrawal of the rejections are requested. Allowance of claims 1-21 at an early date is solicited.

Respectfully submitted:



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